

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
12 September 2003 (12.09.2003)

PCT

(10) International Publication Number
WO 03/074164 A1

- (51) International Patent Classification⁷: **B01F 7/22**
- (21) International Application Number: **PCT/US03/05680**
- (22) International Filing Date: 24 February 2003 (24.02.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/360,729 1 March 2002 (01.03.2002) US
- (71) Applicant (for all designated States except US): **GLAXO GROUP LIMITED** [GB/GB]; Glaxo Wellcome House, Berkley Avenue, Greenford, Middlesex UB6 0NN (GB).
- (71) Applicant (for MG only): **SMITHKLINE BEECHAM CORPORATION** [US/US]; One Franklin Plaza, Philadelphia, PA 19101 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **ALDRICH, Victor** [GB/GB]; GlaxoSmithKline, Park Road, Ware, Hertfordshire SG12 0DJ (GB). **CHAPMAN, Steven, George** [GB/GB]; GlaxoSmithKline, Park Road, Ware, Hertfordshire SG12 0DJ (GB). **HOENDERKAMP, Lee, Paul** [GB/GB]; GlaxoSmithKline, Park Road, Ware, Hertfordshire SG12 0DJ (GB).
- (74) Agents: **LEVY, David, J. et al.**; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, NC 27709 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
- with international search report
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**WO 03/074164 A1**(54) Title: **ROTARY BLENDING APPARATUS AND SYSTEM**

(57) **Abstract:** A rotary blending apparatus and system comprising a hub (10) and a plurality of substantially angularly spaced impeller blades (20). The unique, variable configuration of the impeller blades produces optimum flow patterns and, hence, highly efficient mixing of solids and liquids. The blending apparatus is also scalable to multiple sizes without compromising mixing performance.